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10/576,060	08/28/2006	Ralf Dunkel	CS8772BCS033031	2152

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EXAMINER	
FIERRO, ALICIA	

ART UNIT	PAPER NUMBER
4121	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,060	DUNKEL ET AL.	
	Examiner	Art Unit	
	ALICIA L. FIERRO	4121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *19-26,28 and 29* is/are pending in the application.

4a) Of the above claim(s) *22,25 and 29* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *19-21,23-24,26 and 28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/28/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 19-26 and 28-29 are pending in the instant application, filed April 18, 2006. Furthermore, according to the most recent copy of amended claims, filed February 6, 2009, claims 1-18, 27, and 30-35 have been cancelled.

Priority

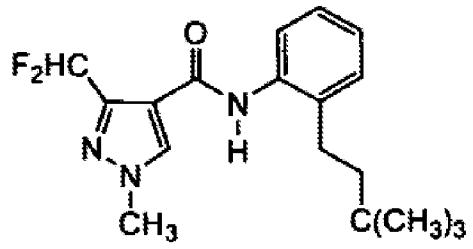
2. The instant application is a national stage entry of PCT/EP2004/011408, filed October 12, 2004, which claims priority to: German Patent Application No. 103-52-067.8, filed November 7, 2003 and German Patent Application No. 103-49-498.7, filed October 23, 2003. It is noted that although certified copies of these priority documents have been received, the documents have not been considered as English language translations have not been provided.

Information Disclosure Statement

3. The information disclosure statement submitted on September 28, 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed be submitted to the office. It has been placed in the application file, but the references which are crossed out in the signed copy of the 1449 form have not been considered due to the fact that they have not been provided.

Election/Restrictions

4. Applicant's election with traverse of Group I, Claims 19-26 and 28 in the reply filed on February 6, 2009, as well as an election of the species of Formula (I) wherein L is unsubstituted L-1 (i.e. R^2 is H), R^1 is H, R^3 is methyl, A is A1, R^{10} is difluoromethyl, R^{11} is H, and R^{12} is methyl is acknowledged. The elected species reads on claims 19-21, 23, 24, 26, 28 and 29 and has the following structure:



The traversal is on the ground(s) that Groups I and VII (drawn to claims 19-26 and 28, compounds of formula (I) and a composition thereof and claim 29, a method of using compounds of formula (I) have an inherent relationship and that "the biological activity inherent to the method of Group VII is so intimately associated with the compounds of Group I" that the claims should be considered together and would not place an undue burden on examination. Applicant's remarks have been fully considered, but are not found persuasive for the following reasons:

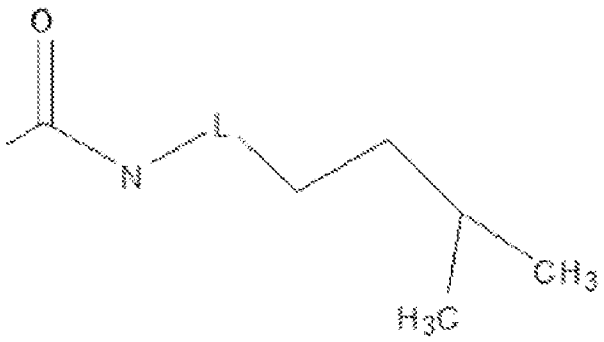
An international application should relate to only one invention or, if there is more than one invention, the inclusion of those inventions in one international application is only permitted if all inventions are so linked as to form a single general inventive concept (PCT Rule 13.1). In the instant case, more than one invention is claimed. With respect to a group of inventions claimed in an international application, unity of invention exists **only** when there is a technical relationship among the claimed inventions involving one or more of the same or corresponding

special technical features.

The claims herein lack unity of invention under PCT rule 13.1 and 13.2 since, under 37 CFR 1.475(a):

Where a group of inventions is claimed in an application, the requirement of unity of invention shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding special technical features. The expression "special technical features" shall mean those technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.

Groups I and VII (as well as all groups set forth in the original restriction requirement) are lacking unity of invention under 37 CFR 1.475. The technical feature corresponding to the claims is shown below:



This is the core technical feature because it is the only core that is common to all compounds of formula (I). Note that although the structure of L varies, it was included in the core by the Examiner because it joins two essential non-variable components of the core. The presence of a common structural element is noted. However, the common structural element does not constitute a special technical feature because it fails to define a contribution over the

prior art as can be seen in WO/010149 (cited by Applicant on IDS), which discloses the same core as in instant Claim 19.

Therefore, claims 19-26 and 28-29, which make up Groups I and VII, (as well as the entirety of the claims in the instant application) are not so linked as to form a single general inventive concept and there is a lack of unity of invention because they lack a special technical feature as the technical feature present fails to define a contribution over the prior art. The core technical feature that is being claimed is taught by the prior art. Accordingly, unity of invention is considered to be lacking and restriction of the invention in accordance with the rules of unity of invention is considered to be proper.

Therefore, since the claims do not relate to a single general inventive concept under PCT Rule 13.1 and lack the same or corresponding special technical feature, the claims lack unity of invention.

The requirement is still deemed proper and is therefore made **FINAL**.

5. Claims 22, 25, and 29 are withdrawn as being drawn to non-elected subject matter. MPEP § 803.02 provides guidelines for election of species in Markush-type claims. These guidelines were followed for the search and examination detailed herein. The elected species was not found to be allowable (Sections 6-18). Therefore, the Markush-type claims were rejected and the subject matter drawn to nonelected species held withdrawn from further consideration. Claims 19-21, 23-24, 26 and 28 were further examined, pursuant to MPEP § 803.02, to the extent necessary to determine patentability. The search was limited to the elected species. It has been determined that the entire scope claimed is not patentable.

Claim Rejections - 35 USC § 112

(First Paragraph)

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 28 is rejected under 35 U.S.C. 112, first paragraph as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In the instant case, the claims are drawn to an agent for the control of "unwanted microorganisms" which contains at least one compound of formula (I) and additional extenders and/or surfactants. Applicants describe no "unwanted microorganisms" other than mentioning in the specification that "The substances according to the invention have potent microbial activity and can be employed for controlling unwanted microorganisms, such as fungi and bacteria…" and listing a number of genii for different fungal and bacterial pathogens encompassed by the instant claims (¶ [0384]-[0387]), and stating that "unwanted microorganisms are to be understood as meaning phytopathogenic fungi, bacteria and viruses (¶ [0390]). While firm support is provided for agents of compounds of formula (I) to treat **specific** fungal infenctions in plants (namely *Sphaerotheca fuliginea, Venturia inaequalis*, *Botrytis cinera, Podosphaera leucotricha, and Puccinia recondita*), no compounds of the invention were tested against any bacteria, viruses, or any other microorganisms. As such, the claims lack adequate written

description for use against the myriad of organisms embraced by the claimed "unwanted microorganisms."

The description requirement of the patent statue requires a description of an invention, not an indication of a result that one might achieve if one made that invention. See *In re Wilder*, 736, F.2d 1516, 1521, 222 USPQ 369, 372-73 (Fed. Cir. 1984) (affirming rejection because the specification does "little more than outlin[e] goals appellants hope the claimed invention achieves and the problems the invention will hopefully ameliorate.") Accordingly, it is deemed that the specification fails to provide adequate written description for the genus of the claims and does not reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the entire scope of the claimed invention.

Claims 19-21, 23-24, 26 and 28 are rejected under 35 U.S.C. 112 1st paragraph as failing to comply with the written description requirement.

The MPEP states that the purpose of the written description requirement is to ensure that the inventor has possession, as of the filing date of the application, of the specific subject matter later claimed by him. The courts have stated:

"To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention." Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997); In re Gostelli, 872 F.2d 10081 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989) ("[T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed."). Thus, an applicant complies with the written description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures, diagrams, formulas, etc., that set forth the claimed invention." Lockwood, 107 F.3d at 1572, 41 USPQ2d at 1966." Regents of the University of California v. Eli Lilly & Co., 43 USPQ2d 1398.

Further, for a broad generic claim, the specification must provide adequate written description to identify the genus of the claim. In Regents of the University of California v. Eli Lilly & Co. the court stated:

"A written description of an invention involving a chemical genus, like a description of a chemical species, 'requires a precise definition, such as by structure, formula, [or] chemical name,' of the claimed subject matter sufficient to distinguish it from other materials." *Fiers*, 984 F.2d at 1171, 25 USPQ2d 1601; *In re Smythe*, 480 F.2d 1376, 1383, 178 USPQ 279, 284985 (CCPA 1973) ("In other cases, particularly but not necessarily, chemical cases, where there is unpredictability in performance of certain species or subcombinations other than those specifically enumerated, one skilled in the art may be found not to have been placed in possession of a genus ...") *Regents of the University of California v. Eli Lilly & Co., 43 USPQ2d 1398.*

The MPEP states that for a generic claim the genus can be adequately described if the disclosure presents a sufficient number of representative species that encompass the genus. MPEP § 2163. If the genus has a substantial variance, the disclosure must describe a sufficient variety of species to reflect the variation within that genus. See MPEP § 2163. Although the MPEP does not define what constitute a sufficient number of representative species, the courts have indicated what do not constitute a representative number of species to adequately describe a broad genus. In *Gostelli*, the courts determined that the disclosure of two chemical compounds within a subgenus did not describe that subgenus. *In re Gostelli*, 872, F.2d at 1012, 10 USPQ2d at 1618.

The Guidelines for Examination of Patent Applications Under 35 USC 112, ¶1, "Written Description" Requirement (Federal Register, Vol. 66, No. 4, pg. 1105, column 3), in accordance with MPEP § 2163, specifically state that for each claim drawn to a genus the written description requirement may be satisfied through sufficient description of a representative number of species

by a) actual reduction to practice; b) reduction to drawings or structural chemical formulas; c) disclosure of relevant, identifying characteristics (i.e. structure) by functional characteristics coupled with a known or disclosed correlation between function and structure. The analysis of whether the specification complies with the written description requirement calls for the examiner to compare the scope of the claim with the scope of the description to determine whether applicant has demonstrated possession of the claimed invention (Federal Register, Vol. 66, No. 4, p. 1105, 3rd column, 3rd paragraph). Below is such a comparison.

I. ***Scope of Claims***

The claims are drawn to compounds of Formula (I) and compositions thereof. The variables R^1,R^{10}, R^{11}, R^{12}, L and A are claimed *broader* than what is supported by the disclosure (see section II below).

II. ***Scope of Disclosure***

Reduction to Practice:

The compounds reduced to practice support the following substituents for the aforementioned variables:

R^1: H and C_{1-8} alkyl

L: L-1

A: A1, A2, A3, A4, A10, A11, and A12

R^{10}: H, halogen, hydroxyl, C_{1-4} alkyl and C_{1-4} haloalkyl

R^{11}: H, halogen, C_{1-4} alkyl and C_{1-4} haloalkyl

R^{12}: H, C_{1-4} alkyl, and C_{1-4} haloalkyl

Reduction to Structure or Chemical Formulas

The only disclosure, in addition to the species reduced to practice, is in the form of lists of possible substituents for R^1, R^{10}, R^{11},R^{12}, L and A. This type of disclosure is not viewed to be a representation of any of the species it encompasses. A "laundry list" disclosure of every possible moiety does not constitute a written description of every species in a genus because it would not "reasonably lead" those skilled in the art to any particular species. MPEP 2163.I.A. and *Fujikawa v. Wattanasin*, 93 F. 3d 1559, 1571, 39 USPQ2d 1895, 1905 (Fed. Cir. 1996). Therefore, there is no disclosure of species (e.g. by reduction to structural/chemical formulae) in addition to those reduced to practice. The embodiments of the instant invention as exemplified on pages 50-52 of the specification do not contain embodiments wherein substituents R^1, L and A are the following:

R^1:

C_1-C_6-alkylsulphinyl, C_1-C_6-alkylsulphonyl, C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_8-cycloalkyl; represents C_1-C_6-haloalkyl, C_1-C_4-haloalkylthio, C_1-C_4-haloalkylsulphinyl, C_1-C_4-haloalkylsulphonyl, halo-C_1-C_4-alkoxy-C_1-C_4-alkyl, or C_3-C_6-halocycloalkyl having in each case 1 to 9 fluorine, chlorine, and/or bromine atoms; represents formyl, formyl-C_1-C_3-alkyl, (C_1-C_3-alkyl)carbonyl-C_1-C_3-alkyl, or (C_1-C_3-alkoxy)carbonyl-C_1-C_3-alkyl; represents halo-(C_1-C_3-alkyl)carbonyl-C_1-C_3-alkyl or halo-(C_1-C_3-alkoxy)-carbonyl-C_1-C_3-alkyl having in each case 1 to 13 fluorine, chlorine, and/or bromine atoms; represents (C_1-C_6-alkyl)carbonyl, (C_1-C_6-alkoxy)carbonyl, (C_1-C_4-alkoxy-C_1-C_4-alkyl)carbonyl, or (C_3-C_8-cycloalkyl)carbonyl; represents (C_1-C_6-haloalkyl)carbonyl, (C_1-C_6-haloalkoxy)carbonyl, (halo-C_1-C_4-alkoxy-C_1-C_4-alkyl)carbonyl, or (C_3-C_6-halocycloalkyl)carbonyl having in each case 1 to 9 fluorine, chlorine, and/or bromine atoms; or represents $-C(=O)C(=O)R^4$, $-CONR^5R^6$, or $-CH_2NR^7R^8$,

R^{10}: formyl, cyano, nitro, C_1-C_4-alkoxy, C_1-C_4-alkylthio, or C_3-C_6-cycloalkyl; C_1-C_4-haloalkoxy or C_1-C_4-haloalkylthio having 1-5 halogen atoms; or aminocarbonyl or amino carbonyl-C_1-C_4-alkyl.

R^{11}: cyano, C_1-C_4-alkoxy, or C_1-C_4-alkylthio; or C_1-C_4-haloalkylthio having 1-5 halogen atoms

R^{12}: hydroxy-C_1-C_4-alkyl, C_2-C_6-alkenyl, C_3-C_6-cycloalkyl, C_1-C_4-alkylthio-C_1-C_4-alkyl, or C_1-C_4-alkoxy-C_1-C_4-alkyl; or C_1-C_4 halo-alkylthio-C_1-C_4-alkyl or C_1-C_4-haloalkoxy-C_1-C_4-alkyl having 1 to 5 halogen atoms; or phenyl

L: L-2, L-3 or L-4

A: A5, A6, A7, A8, A9, A13, A14, A15, A16, or A17

Correlation between Structure and Function:

A correlation between structure and function, for the instantly claimed genus of compounds, is neither known in the art nor disclosed in the specification. Thus, it is not understood what specific structural elements are essential for the activity of the compounds in the instant application, for which a process of preparation is claimed.

III. ***Analysis of Fulfillment of Written Description Requirement:***

The structural/activity relationship (SAR) for binding and activity is elucidated upon analysis of IC_{50} data of multiple compounds with various types of structural modifications. These types of studies provide insight into the structural limitations that are required for activity, i.e., specific structural elements essential for the claimed activity. In the absence of such correlation, it is not possible to determine what structural modifications will allow for the preservation of the desired activity.

In conclusion, (i) substantial structural variation exists in the genus/subgenera embraced by claims 19-21, 23-24, 26 and 28; (ii) disclosure of species supporting genus is limited to compounds reduced to practice, which scope is not commensurate with the scope of genus/subgenera claimed; (iii) common structural attributes of the genus/subgenera, combined with a correlation between structure and function, is neither disclosed in the instant application nor commonly known in the art. Thus, the specification fails to provide adequate written description for the genus of compounds claimed and does not reasonably convey to one skilled in the relevant art that the invention(s), at the time the

application was filed, had possession of the entire scope of the claimed invention.

Claim Rejections - 35 USC § 112

(Second Paragraph)

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 19-21, 23-24, 26 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term "isopentylcarboxanilide" in claims 19-21, 23-24, 26 and 28 is used by the claim to encompass all compounds of general formula (I), while the accepted meaning of an anilide compound is "an amide (as acetanilide) in which hydrogen of the amido group is replaced by phenyl" (http://www.merriam-webster.com/medical/anilide). The term is indefinite because the specification does not clearly redefine the term to encompass compounds of formula (I) wherein L is L-2, L-3 or L-4 (a thiophene group) rather than a phenyl group. This rejection may

be overcome either by cancelling the claimed material which does not fit in the classification of "carboxanilide" (L-2, L-3, and L-4) or by amending the preambles of the claims to encompass all claimed material.

Claims 19-21, 23-24, 26 and 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Concerning claim 28, in describing components of the composition, Applicant uses the term "and/or" referring to the presence of the extenders and surfactants in the agent. It is unclear whether Applicant intends to claim only compositions which have an extender **and** a surfactant or if a composition containing either an extender **or** a surfactant would meet the limitations of the claim. For the purposes of applying art, the Examiner will interpret the claim as reading on an agent that contains either at least one extender or at least one surfactant.

Concerning the claims drawn to compounds of formula (I) (19-21, 23-24, 26 and 28), Applicant uses the term "and/or" in describing various R substituents. For example, the definitions of R1, R4, R5, R6, and R7 all contain the term "and/or" in reference to the presence of various halogen atoms as substituents. It is unclear whether Applicant intends to claim only compounds which have only one particular halogen atom or if a compound containing multiple different halogen atoms would meet the limitations of the claim. For the purposes of applying art, the Examiner will interpret the claim as reading on a compound that contains any combination of the halogen atoms listed.

Claim 28 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of the limitation "unwanted" does not make clear specifically which microorganisms Applicants intend to encompass in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

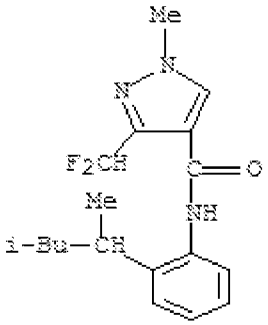
The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 19-21, 23-24, 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5965774 (published October 12, 1999).

10. Please note that for the purposes of applying art to claim 28, the phrase "for controlling unwanted microorganisms" is considered to be intended use and is not limiting to the claimed invention or significant to the claim construction. See MPEP 2111.02(II). However, in determining whether or not the prior art would be capable of the intended use, as claimed, it is necessary to examine the meaning of "controlling" in claim 28. Because no specific definition was set forth for "control" in the instant specification, a definition consistent with the art has been applied. Merriam-Webster defines "control" as "to reduce the incidence or severity of especially to innocuous levels" (http://www.merriam-webster.com/dictionary/control). Thus, anything which would reduce the incidence of (i.e. kill) microorganisms would be capable of the intended use in claim 28.

11. The '774 patent discloses the compound N-[2-(1,3-dimethylbutyl)phenyl]-3-difluoromethyl-1-methylpyrazole-4-carboxamide, and also details its synthesis in Example 3, Columns 18-19, lines 56-67 and 1-2. This compound has the following structure (produced by STN):



The '774 patent also refers to this compound as "Compound 2." Additionally, the reference discloses that the carboxanilide derivatives of the invention exhibit "a disease control effect against *Botrytis cinerea,* Powdery mildew, *Pyricularia oryzae* of the rice plant and other various plant diseases...has activity against strains that are resistant to conventional chemicals, is safe for crops, and thus is useful as a plant disease control agent" (see Abstract). Formulation Example 2 (column 23, lines 7-15) discloses the formation of a composition of Compound 2 which includes the compound as an active ingredient, along with 70 parts by weight of kaolin, 18 parts by weight of white carbon, and 2 parts by weight of calcium alkylbenzenesulfonate, which is a known surfactant. Additionally, compositions of Compound 2 were tested against many different fungal plant pathogens, including *Sphaerotheca fuliginea* and *Venturia inaequalis* (see Table 1, column 25), *Puccinia recondita* (see Table 2, column 27), *Rhizoctonia solani* (see Table 3, column 27), and *Alternaria mali* (see Table 4, column 28) and was found to be effective in controlling each of these microorganisms. The compound taught by the '774 patent is a *prima facie* obvious variant of the elected species. The difference between the compound taught by the '774 patent and the instant claims is the methyl substitution of the first carbon in the alkyl chain and the presence of H rather than one of the methyl group substitutions on the terminal carbon of the alkyl chain.

Hydrogen and methyl substitutions are known in the art and are deemed to be obvious variants of each other. *In re Wood*, 199 USPQ 137. Thus, replacing the methyl with a hydrogen on the C_1 of the alkyl chain and replacing the hydrogen with a methyl at the C_3 position of the alkyl chain is an obvious variation of the known compound.

The motivation to make the instantly examined species derives from the expectation that structurally similar compounds would possess similar biochemical activity (i.e. they would have microbicidal activity on species such as those tested in the '774 patent). Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to make the instantly examined species by modifying a methyl group and a hydrogen on the alkyl chain of the compound taught by the '774 patent.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re*

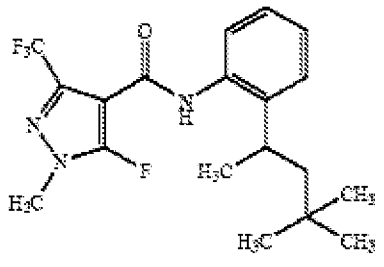
Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

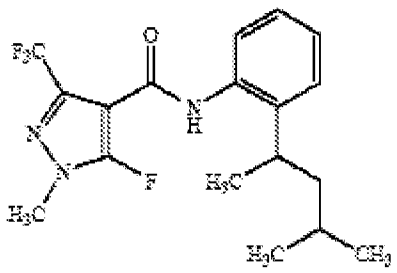
A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 and 9 of U.S. Patent No. 7358214. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons below.

The recited claims of the '214 patent are drawn to various generic compounds of Formula I and a composition thereof with the addition of extenders and/or surfactants. Additionally, several preferred embodiments in the specification of the '214 patent (see, for example, Compounds 1 and 2) recite obvious variants of compounds in the genus of the instant claims.





COMPOUND 1 COMPOUND 2

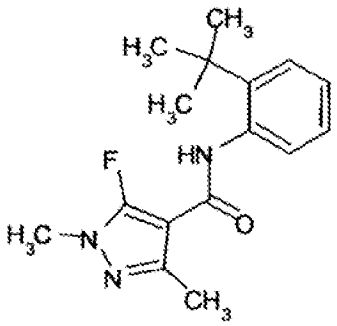
The compound taught by the '214 patent recited as Compound 2 fits into the instant genus as a compound wherein L is L-1, A is A1, R3 is H, R10 is C1 haloalkyl having 3 fluorines, R11 is halogen (F), and R12 is C1 alkyl (methyl). Compound 1 has the same substitutions except that R3 in the instant formula (I) is C1 alkyl (methyl). The difference between the instantly claimed genus and the compounds claimed in the '214 patent is a methyl substitution at the C1 position of the alkyl chain. Additionally, claim 9 of the '214 patent is drawn to a composition for controlling microorganisms comprising one or more compounds of the invention along with the addition of extenders and/or surfactants. In the '214 patent the terms "extenders" and "surfactants" are defined identically as in the instant application, so claim 9 of the '214 patent reads on instant claim 28.

Hydrogen and methyl substitutions are known in the art and are deemed to be obvious variants of each other. *In re Wood*, 199 USPQ 137. Thus, replacing the methyl with a hydrogen on the C_1 of the alkyl chain is an obvious variation of the known compound.

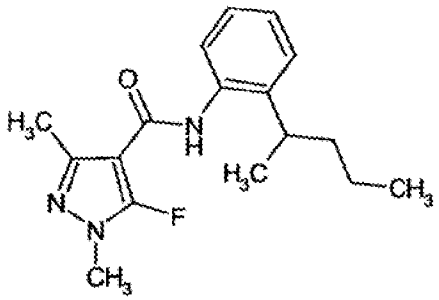
The motivation to make the instantly examined species derives from the expectation that structurally similar compounds would possess similar biochemical activity (i.e. they would be useful in the control of microorganism species). Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to make the instantly examined species by modifying a hydrogen to a methyl on the alkyl chain of the compound claimed in the '214 patent.

14. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 22-28, 31-33, 35 and 38 of copending U.S. Application No. 10/484,108. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons below.

The recited claims of the '108 application are drawn to various generic compounds of Formula (I) and a composition thereof with the addition of extenders and/or surfactants. Additionally, several preferred embodiments in the specification of the '108 application (see, for example, Compounds I-5 and I-17) recite obvious variants of compounds in the genus of the instant claims.



COMPOUND I-5



COMPOUND I-17

The compound taught by the '108 application recited as Compound I-5 fits into the instant genus as a compound wherein L is L-1, A is A1, R_3 is CH_3, R_{10} is C_1 alkyl (methyl), R_{11} is halogen (F), and R_{12} is C_1 alkyl (methyl). Compound I-17 has the same substitutions except that R3 in the instant formula (I) is H. The difference between the instantly claimed genus and the compounds claimed in the '108 application is that compound I-5 is a homolog of compounds in the instantly claimed genus (i.e. they differ in that the instant compounds have the successive addition of the

same chemical group, namely CH_2, in the alkyl chain). In Compound I-17 there is a methyl substitution at the C_1 position of the alkyl chain and an H substitution at the C_3 position on the alkyl chain.

Concerning compound I-5, one of ordinary skill in the art would have been motivated, at the time of the invention, to make the modification of alkyl chain on the phenyl ring to arrive at the instantly elected species and composition thereof with a reasonable expectation of obtaining a molecule with the same activity as that in the '108 application. To those of ordinary skill in the chemical art, one homologue is not such an advance over adjacent members of the series as requires invention because chemists knowing properties of one member of a series would, in general, know what to expect in adjacent members. *In re Henze*, 85 U.S.P.Q. 261 (1950). Concerning compound I-17, hydrogen and methyl substitutions are known in the art and are deemed to be obvious variants of each other. *In re Wood*, 199 USPQ 137. Thus, replacing the methyl with a hydrogen on the C_1 of the alkyl chain and replacing the hydrogen with a methyl at the C_3 position of the alkyl chain is an obvious variation of the known compound.

The motivation to make the instantly examined species derives from the expectation that structurally similar compounds would possess similar biochemical activity (i.e. they would be useful in the control of microorganism species). Thus, it would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to make the instantly examined species by modifying a hydrogen to a methyl on the alkyl chain of the compound claimed in the '108 application.

In the same manner as the above obviousness-type double patenting rejections were

made, the following rejections also apply to the claims in the instant application:

15. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 13-17 and 20 of copending U.S. Application No. 10/576,050. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons applied in the above rejections based on H/CH_3 substitutions.

16. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-15 and 17 of copending U.S. Application No. 10/576,153. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons applied in the above rejections based on H/CH3 substitution.

17. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 4 of copending U.S. Application No. 10/583,312. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons applied in the above rejections based on H/CH_3 substitution.

18. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 11-12 and 14 of copending U.S. Application No. 10/557,083. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons applied in the above rejections based on H/CH3 substitution. Additionally, the '083 application requires that the instant R_{10} group be I. Although the instant claims contain a proviso that R_{10} does not represent iodine if R_{11} represents hydrogen, R_{10} can still be any other halogen. To those skilled in the chemical art, compounds are not patentably distinct when the difference between the claimed compounds and conflicting claims is a difference of one halogen vs. another halogen (such as I vs. Cl). Since both moieties are halogens, the claimed compounds are an analogues or isologues of those in the conflicting claims of the '083 application. *Ex parte Wiseman*, 98 USPQ 277 (1953). The instantly claimed compounds would have been *prima facie* obvious to one skilled in the art at the time the invention was made because one skilled in the art would have been motivated to prepare analogues of the compounds claimed in the '083 application with the expectation of obtaining compounds with similar properties (namely microbicidal properties).

19. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-2 and 4 of copending U.S. Application No. 10/597,723. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting

claims are not identical, they are not patentably distinct from each other for the reasons applied in the above rejections based on H/CH_3 substitutions. Additionally, the '723 application requires that the R_2 group is substituted by a halogen. In the case where the halogen is fluorine, the compounds of the '723 application are deemed to be obvious variants of the instantly claimed compounds. H and F are known to be bioisosteric substitutions, which are well known in the art. See Patani et al., *Chem Rev.*, 1996, 96, 3147-76, especially page 3149. One of ordinary skill in the chemical art would have had *prima facie* obvious motivation at the time the invention was made to make the instantly claimed compounds because of the expectation that structurally similar, isosteric compounds would possess similar activity (i.e. they would useful as microbicides).

20. Claims 19-21, 23-24, 26 and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 20-22, 24-28 and 30 of copending U.S. Application No. 10/576,243. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented. Although the conflicting claims are not identical, they are not patentably distinct from each other for the reasons applied in the above rejections based on H/CH_3 substitutions and H/F isosteric substitution.

Conclusion

21. No claims are allowed.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALICIA L. FIERRO whose telephone number is (571)270-7683. The examiner can normally be reached on Monday - Thursday 6:00-4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Nolan can be reached on (571)272-0847. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AF

/Patrick J. Nolan/

Supervisory Patent Examiner, Art Unit 4121